

Claims

What is claimed is:

1. A nozzle comprising:

a divergent section located aft of a convergent section and a throat therebetween circumscribing a nozzle centerline,

an exterior fairing surrounding and spaced radially outwardly of at least the divergent section,

a cooling air ejector in the nozzle, and

an ejector cooling air flowpath leading from an ejector cooling air inlet in an aft portion of the fairing to the ejector.

2. A nozzle as claimed in claim 1 further comprising an annular nozzle plenum radially bounded by the divergent section and the external fairing and the ejector cooling air flowpath further including the nozzle plenum between the ejector cooling air inlet and the ejector.

3. A nozzle as claimed in claim 2 further comprising:

a plurality of circumferentially adjacent convergent flaps and convergent seals in the convergent section, pivotably mounted to an outer engine casing, and being pivotable relative to the centerline axis,

a plurality of divergent flaps and divergent seals in the divergent section, circumferentially disposed aft of and pivotably connected to the convergent section, and

the ejector operable to cool the divergent flaps and seals.

4. A nozzle as claimed in claim 3 further comprising the ejector including cooling air passages in the divergent flaps and seals.

5. A nozzle as claimed in claim 4 wherein the cooling air passages are slots.

6. A nozzle as claimed in claim 3 further comprising:

the exterior fairing includes a plurality of circumferentially adjacent exterior flaps and exterior seals,

aft ends of the exterior flaps pivotally attached to aft ends of the divergent flaps, and

forward ends of the exterior flaps and seals of exterior fairing pivotally attached to the outer casing.

7. A nozzle as claimed in claim 6 further comprising the ejector including cooling air passages in the divergent flaps and seals.

8. A nozzle as claimed in claim 7 wherein the cooling air passages are slots.

9. A nozzle as claimed in claim 6 further comprising truncated ends the exterior seals and each of the truncated ends being located radially inwardly of and between circumferentially adjacent ones of the exterior flaps.

10. A nozzle as claimed in claim 9 further comprising the ejector including cooling air passages in the divergent flaps and seals.

11. A nozzle as claimed in claim 10 wherein the cooling air passages are slots.
12. A nozzle as claimed in claim 6 further comprising apertures in the exterior seals and each of the apertures being located radially inwardly of and between circumferentially adjacent ones of the exterior flaps.
13. A nozzle as claimed in claim 12 further comprising the ejector including cooling air passages in the divergent flaps and seals.
14. A nozzle as claimed in claim 13 wherein the cooling air passages are slots.